CVN(X) Next Generation Nuclear Attack Carrier

The CVN(X) program is using an evolutionary acquisition strategy to develop a new class of nuclear-powered, large deck aircraft carriers. The lead ship, CVNX1 (X1), will build on the CVN-77 design and incorporate an improved nuclear propulsion plant, nearly tripling electrical power generation capacity to replace manpower intensive steam auxiliary systems. X1 will incorporate an Integrated Warfare System designed around the Multi-Function Radar/Volume Search Radar suite being developed by the DD(X) program, an Electromagnetic Aircraft Launching System (EMALS), and other refinements. The Navy expects EMALS to reduce ship manning and maintenance requirements and lower aircraft life cycle costs. X2 will incorporate further improvements in flight deck performance, survivability, service life growth allowances, and continued reduction in total ownership costs. CVN(X) will host an airwing of 75 Navy and Marine Corps aircraft, including the new F/A-18E/F and emerging aircraft systems, such as the Joint Strike Fighter and Unmanned Combat Air Vehicle – Navy.

The Navy's evolutionary acquisition approach was approved by OSD in a June 2000 Milestone I decision based on an Analysis of Alternatives that examined potential approaches and designs. X1 was authorized in the FY01 Defense Authorization Act. OSD approval to proceed from Preliminary Design into Detail Design and Construction of X1 and to obligate Advanced Procurement funds for long-lead reactor plant components is planned for Milestone B scheduled for FY03. Construction of X1 is scheduled for FY08 and the ship will enter the fleet in FY14. Construction of X2 is scheduled to begin in FY11 and complete in FY18. The Navy plans to commence construction of follow-on ships every 4-5 years thereafter.

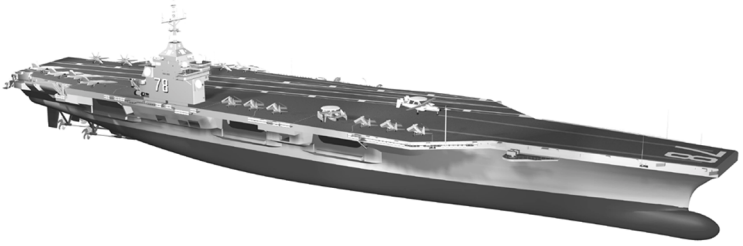
TEST & EVALUATION ACTIVITY

During 2002, competing contractors conducted sub-scale testing of their respective EMALS designs and began construction of half-length test facilities at Naval Air Warfare Center, Lakehurst, New Jersey, to support the commencement of full-scale testing planned for the summer of 2003.

DOT&E representatives and other members of the Test and Evaluation Working Group reviewed several drafts of the Milestone B revision to the CVN(X) Test and Evaluation Master Plan to include recommended revisions to the Program Manager and Commander, Operational Test and Evaluation Force (COMPTEVFOR). COMOPTEVFOR provided a test plan for an early operational assessment of CVN(X), which DOT&E approved on September 16, 2002.

DOT&E representatives and members of the Test and Evaluation Live Fire Test and Evaluation (LFT&E) Working Group completed development of the CVN(X) LFT&E Management Plan, that describes the testing and analyses to assess the vulnerability of the CVN(X) Class ships.

DOT&E representatives witnessed testing that evaluated protection technologies and examined weapon sensitivity characteristics. DOT&E also conducted a comprehensive review of a Navy vulnerability assessment of an X1 early baseline configuration for Milestone B.



The program has an outstanding competitive test and evaluation program set up for an Electromagnetic Aircraft Launching System – a model for other programs.

TEST & EVALUATION ASSESSMENT

The technical risk for this program is moderate. This risk was initially spread over a variety of ship building programs that have either been cancelled or postponed. These changes will probably have their greatest impact on the Integrated Warfare System.

The program has an outstanding competitive test and evaluation program set up for EMALS – a model for other programs. DOT&E expects to see results from the EMALS testing at Lakehurst beginning in November 2003. A successful EMALS program will significantly reduce the complexity and space consumed by legacy steam and hydraulic systems. It could also significantly increase the life expectancy of carrier aircraft due to a much smoother launch sequence.